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Transportation & Industrial

MOLYKOTE® 112 High Consistency Valve Sealant

Lubricant and sealing material for plastic and rubber valves and bearings

Features

- Nonmelting
- Low volatility
- Thermally stable
- Serviceability from -40 to 450°F (-40 to 232°C)
- Excellent water and oil resistance
- Good resistance to most chemicals

Composition

- Inert amorphous silica filler
- Selected polydimethyl silicone fluids

Description

MOLYKOTE® 112 High Consistency Valve Sealant, a greaselike compound, is a stiff, nonmelting silicone material used primarily as a valve lubricant and sealer.

MOLYKOTE® 112 High Consistency Valve Sealant will not carbonize at serviceability temperatures; has a very low vapor pressure; and will resist melting or hardening during long exposure to elevated temperatures. It is insoluble in water, methanol, ethanol, glycol, and glycerine; resistant to most aqueous solutions of inorganic salts, dilute acids, and alkalis; and unaffected by most vegetable and mineral oils, many organic compounds, and most common gases. MOLYKOTE® 112 High Consistency Valve Sealant should be thoroughly tested in the specific application prior to use.

Applications

This product is similar to MOLYKOTE® 111 Valve Lubricant and Sealant and is used in applications where a higher degree of mechanical stability is desired.

Chemical processing

Because of chemical resistance, long service life, and temperature stability, MOLYKOTE® 112 High Consistency Valve Sealant is used as a valve, O-ring, and plug-valve lubricant. It is also an effective lubricant for control valves and pressure plug valves, a sealant for vacuum and pressure systems, and a chemical barrier coating.

Typical properties

Specification writers: These values are not intended for use in preparing specifications. Please contact your local MOLYKOTE® sales representative prior to writing specifications on this product.

Standard(1)	Test	Unit	Result
Physical			
CTM 0176	Color		White-translucent
	Penetration		
	unworked		215
	worked 60 strokes, maximum		230
	worked 100,000 strokes		240
CTM 0033A	Bleed, 24 hours/ 392°F (200°C)	%	0.03
CTM 0033A	Evaporation, 24 hours/ 392°F (200°C)	%	0.8
	Service temperature range	°F (°C)	-40 to 450 (-40 to 232)
ASTM D4049	Water spray-off	%	3.0
	Melting point		None
CTM 0022	Specific gravity at 77°F (25°C)		1.1
Electrical			
CTM 0112	Dielectric constant at		
	100 Hz		2.93
	100 kHz		2.92
CTM 0112	Dissipation factor at		
	100 Hz		< 0.0001
	100 kHz		< 0.004
CTM 0114	Dielectric strength, 50 mil gap	volts/mil	490
	Volume resistivity at 73°F (23°C)	ohm-cm	2.9×10^{15}
CTM 0171	Arc resistance	seconds	122

(1)CTMs (Corporate Test Methods) correspond to standard ASTM (American Society for Testing and Materials) tests in most instances. Copies of CTMs are available upon request.

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Mechanical device manufacturing
An excellent plastic and rubber lubricant, MOLYKOTE® 112 High Consistency Valve Sealant may be used on devices that require temperature and mechanical stability, such as flow meters, fire extinguisher valves, and lock mechanisms. It has also been used as an O-ring lubricant on binoculars and telescopes, a damping medium in hydraulic pivots, a direct-contact transducer medium in extruders, and a miniature bearing seal.

Equipment manufacturing
MOLYKOTE® 112 High Consistency Valve Sealant helps prevent sticking of valves and O-rings at high temperatures or in freezing conditions. It also acts as an excellent sealer between synthetic rubber or plastic parts in contact with metal in vacuum or pressure systems.

Harsh operating conditions
Special properties such as low volatility and excellent chemical resistance permit use of MOLYKOTE® 112 High Consistency Valve Sealant in high vacuum or pressure systems, and in high temperature atmospheres.

How to use

Surfaces should be thoroughly cleaned before applying MOLYKOTE® 112 High Consistency Valve Sealant.

Even though MOLYKOTE® 112 High Consistency Valve Sealant is very tacky and a large pressure drop occurs when pumping this material, normal grease equipment can be used. However, pumping over a long distance is not recommended.

If MOLYKOTE® 112 High Consistency Valve Sealant must penetrate surfaces to give adequate protection, it can be dispersed in typical penetrating solvents. It is insoluble in water, methanol, ethanol, acetone, glycol, and glycerine.

NOTE: When using any solvent, always provide adequate ventilation. Follow precautions on solvent container label.

Handling precautions

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION.

Usable life and storage

MOLYKOTE® 112 High Consistency Valve Sealant has a shelf life of 60 months from date of manufacture.

Packaging

MOLYKOTE® 112 High Consistency Valve Sealant is available in 5.3 oz (150 g) tubes, 40 lb (18.1 kg) pails, and 440 lb (200 kg) drums, all weights net.

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